Access DB# 94562

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Brian Pellegrino Examiner #: 77018 Date: 5/21/03
Art Unit: 3738 Phone Number 30 6 5899 Serial Number: 09/733120
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

If mor than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Balloon catheter

Inventors (please provide full names): Florencia Lim Nian Jiong Bei
Chi Long

Earliest Priority Filing Date: 4/21/99

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

claim

- a radially noncompliant balloon having a folded noninflated configuration for introduction and advancement within a patient's body lumen, formed at least in part of a polycarbonate based aromatic polyurethane block copolymer having a compliance of less than about 0.025 mm/atm in the working pressure range of the balloon, the polycarbonate polyurethane block copolymer comprising the product of the reaction of poly(1,6 hexyl/ 1,2 ethyl carbonate) diol and 4,4' methylene bisphenyl diisocyanate (MDI) and a chain extender.

also called BIONATE

****

STAFF USE ONLY

Searcher: John Sims
Searcher Phone #: 308-4836
Searcher Location: EIC 3700
Date Searcher Picked Up: _____
Date Completed: 5/22/03
Searcher Prep & Review Time: _____
Clerical Prep Time: _____
Online Time: _____

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ✓
Dialog —
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

STIC Search Report
EIC 3700

STIC Database Tracking Number: 94562

TO: Brian Pellegrino **Location:** **Art Unit: 3738** **Thursday, May 22, 2003** **Case Serial Number: 09/733120**	**From: John Sims** **Location: EIC 3700** **CP2, 2C08** **Phone: 308-4836** **john.sims@uspto.gov**

Search Notes

Not much retrieved on this. Inventor Lim holds a number of patents.

Some reference to use of Bionate in biocompatible medical devices.

3/7/4 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

06995262 Genuine Article#: 112NC Number of References: 87
Title: Cyclic carbonates and spiro-orthocarbonates - Prospective monomers in the chemistry of polymers
Author(s): Rokicki G (REPRINT) ; Kowalczyk T
Corporate Source: WARSAW UNIV SCI & TECHNOL,WYDZIAL CHEM, UL NOAKOWSKIEGO 3/PL-00664 WARSAW//POLAND/ (REPRINT)
Journal: POLIMERY, 1998, V43, N7-8, P407-415
ISSN: 0032-2725 Publication date: 19980000
Publisher: INDUSTRIAL CHEMISTRY RESEARCH INST, 8 RYDYGIERA STR, 01-793 WARSAW, POLAND
Language: Polish Document Type: ARTICLE
Abstract: Syntheses and applications of cyclic carbonates and spiro-orthocarbonates are reviewed with particular reference to the ring-size effect exercised by either carbonate type on the mechanisms of polymerization and copolymerization carried out with various heterocyclic monomers. Prospective application areas of the polycarbonates and their copolymers thus obtained are discussed. Aliphatic polycarbonates are used as polyol ingredients for segmented polyurethanes to make hydrolysis-resistant urethane elastomers as well as oxidation-resistant and biocompatible medical utensils (e.g., **BIONATE**). Some aliphatic copolycarbonates (e.g., with (R)-beta-butyrolactone) are biodegradable; polycarbonates and copolymers containing polycarbonate blocks are liable to ring-closing depolymerization,, which thus renders thermodynamic recycling feasible. Modification of epoxy resins with cyclic carbonate-terminated oligomers, involving polyamines and Lewis acids (especially BF3. OEt2) as curing agents, has led to compositions endowed with enhanced impact resistance.

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L1 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:686786 HCAPLUS
TITLE: Stent deploying catheter system and balloon catheter
INVENTOR(S): Lee, Jeong S.; **Lim, Forencia**
PATENT ASSIGNEE(S): Advanced Cardiovascular Systems, Inc., USA
SOURCE: PCT Int. Appl.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9953986	A2	19991028	WO 1999-US8815	19990421
WO 9953986	A3	19991229		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9936607	A1	19991108	AU 1999-36607	19990421
AU 749331	B2	20020627		
EP 981385	A2	20000301	EP 1999-918770	19990421
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1998-63969 A 19980421
WO 1999-US8815 W 19990421

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L1 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:160876 HCAPLUS
TITLE: Angioplasty catheter system with adjustable balloon length
INVENTOR(S): Lee, Jeong S.; **Lim, Florencia**; Stiger, Cheryl; Voyles, Carolyn; Bavaro, Vincent
PATENT ASSIGNEE(S): Advanced Cardiovascular Systems, Inc., USA
SOURCE: U.S.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6527741	B1	20030304	US 1999-469966	19991221

PRIORITY APPLN. INFO.: US 1999-469966 19991221

AB A resizable inflatable balloon, primarily for use with balloon catheters. The resizable inflatable balloon comprises a first portion and an adjacent second portion. The first portion is inflatable to a working diameter at a first pressure while the second portion does not substantially expand at the first pressure. The second portion does expand to the working diameter at a second pressure greater than the first pressure, so that subsequent inflation at the first pressure inflates the first portion and the second portion to the working diameter. The methods of resizing the inflatable members include placing the inflatable balloon in a mold and supplying inflation fluid to expand the second member to the working diameter. In practice, a catheter having the resizable inflatable balloon is guided through a patient's vasculature until the inflatable balloon is positioned in a desired region. Inflation fluid is supplied at the first pressure to inflate the first portion to the working diameter. The catheter is withdraw and the inflatable balloon is resized as described above. The catheter is reintroduced to the patient's vasculature and inflation fluid is then supplied at the first pressure to inflate both the first and second portions.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:82506 HCAPLUS
DOCUMENT NUMBER: 132:255926
TITLE: High-molecular-weight kininogen preadsorbed to glass surface markedly reduces neutrophil adhesion
AUTHOR(S): Yung, Lin-Yue L.; **Lim, Florencia**; Khan, Mohammad M. H.; Kunapuli, Satya P.; Rick, Leonard; Colman, Robert W.; Cooper, Stuart L.
CORPORATE SOURCE: Department of Chemical Engineering, University of Delaware, Newark, DE, 19716, USA
SOURCE: Biomaterials (2000), 21(4), 405-414
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Adsorbed proteins on biomaterial surfaces det. whether cells adhere, but rheol. variables are also crit. Neutrophil adhesion under well-defined radial flow conditions was studied on glass preadsorbed with plasma proteins or plasma protein domain fragments. Fibrinogen, low-mol.-wt. kininogen (LK), high-mol.-wt. kininogen (HK), cleaved HK (HKa), and

recombinant HK domains 3 and 5 (D3 and D5H) were used. The no. of adherent cells on the HK and HKa surfaces was less than 10% that found on the fibrinogen absorbed surface. The degree of spreading was minimal and detachment of adherent neutrophils was obsd. HK and HKa contain binding sites for both anionic surfaces and neutrophils in the same domain (D5H). When adsorbed to surfaces, HK and HKa did not have the neutrophil binding sites available and therefore exhibited an anti-adhesive effect. Although D5H contains anionic surface binding sites, its small mol. size required a higher no. of adsorbed mols. to cover the surface before a significant decrease in cell adhesion was obsd. Since LK and D3 do not possess specific anionic surface binding sites, the adsorption of these proteins on glass was very low compared to HK and HKa. Thus, extensive cell adhesion and spreading were obsd. on the surfaces partially covered with preadsorbed LK and D3.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:686786 HCAPLUS
TITLE: Stent deploying catheter system and balloon catheter
INVENTOR(S): Lee, Jeong S.; **Lim, Forencia**
PATENT ASSIGNEE(S): Advanced Cardiovascular Systems, Inc., USA
SOURCE: PCT Int. Appl.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9953986	A2	19991028	WO 1999-US8815	19990421
WO 9953986	A3	19991229		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9936607	A1	19991108	AU 1999-36607	19990421
AU 749331	B2	20020627		
EP 981385	A2	20000301	EP 1999-918770	19990421
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1998-63969 A 19980421
WO 1999-US8815 W 19990421

AB An intravascular catheter system for properly implanting a stent in a body lumen generally comprising a catheter having an elongated shaft with an inflatable balloon formed of compliant material and a stent mounted on the working length of the balloon. The balloon material is compliant within the working range of the balloon to provide substantial radial expansion. The wingless radially expansive balloon expands in a uniform manner, thereby producing uniform expansion and implantation of the stent. Another embodiment is directed to a balloon catheter having a semi-compliant balloon formed at least in part of a block copolymer. Axial elongation during inflation may be prevented by axial stretching or

orientation during balloon production process or by mechanical device fitted on the catheter.

L1 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:569967 HCAPLUS
DOCUMENT NUMBER: 131:327450
TITLE: Surface properties and hemocompatibility of alkyl-siloxane monolayers supported on silicone rubber: effect of alkyl chain length and ionic functionality
AUTHOR(S): Silver, James H.; Lin, Jui-Che; **Lim, Florencia**; Tegoulia, Vassiliki A.; Chaudhury, Manoj K.; Cooper, Stuart L.
CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA
SOURCE: Biomaterials (1999), 20(17), 1533-1543
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Self-assembled monolayers of alkylsiloxanes supported on poly(dimethylsiloxane) (PDMS) rubber were used as model systems to study the relation between blood compatibility and surface compn. The inner lumen of PDMS tubes were first treated with an oxygen plasma. The resultant oxidized surfaces were post-derivatized by reaction with alkyltrichlorosilanes to form the monolayer films. The alkyl chain lengths used were slightly longer than in a previous study, and this may alter the phase-state of the monolayer from liq.-like to cryst. The chem. properties of the monolayer were controlled by varying the chem. compn. of the alkyltrichlorosilanes used. Terminal functionalities included Me, CF3, COOH, SO3H and (CH2CH2O)4OH. Surface derivatization was verified with static contact angle measurements and XPS. Blood compatibility was evaluated using a canine ex vivo arterio-venous series shunt model. Surfaces grafted with hydrophobic head groups such as CH3 and CF3 were significantly less thrombogenic than the surfaces composed of ionic head groups such as COOH and SO3H. Surfaces enriched in (CH2CH2O)4OH had an intermediate thrombogenicity. Silastic pump grade tubing and polyethylene tubing, used as controls were found to be the least thrombogenic of all the surfaces tested.
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:727253 HCAPLUS
DOCUMENT NUMBER: 127:294458
TITLE: XPS Study of Surface Composition of a Segmented Polyurethane Block Copolymer Modified by PDMS End Groups and Its Blends with Phenoxy
AUTHOR(S): Wen, Jianming; Somorjai, Gabor; **Lim, Florencia**; Ward, Robert
CORPORATE SOURCE: Department of Chemistry and Materials Science Division Lawrence Berkeley National Laboratory, University of California, Berkeley, CA, 94720, USA
SOURCE: Macromolecules (1997), 30(23), 7206-7213
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Quant. angle-resolved XPS was used to investigate surface modification of

a newly developed biomaterial, segmented polyurethane capped with poly(dimethylsiloxane) (PDMS) end groups, and its blends with phenoxy. The compn. of the freshly prepd. films are not in equil. but they can be equilibrated both in air and in water. The surface segregation of PDMS is found both in nonequil. and in equil. states. XPS data also indicate that the PDMS is enriched in the film surfaces of both air/polymer and glass substrate/polymer interfaces for the pure segmented polyurethane and its blends. The surface compn. is affected by annealing temp. and water. Below the polymer glass transition temp., there is a small increase in PDMS surface concn. during annealing. Above Tg, PDMS surface concn. can increase by a factor of 2. The presence of water will decrease the PDMS surface segregation at temps. both below and above Tg.

L1 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:477070 HCAPLUS
DOCUMENT NUMBER: 127:140498
TITLE: Surface modification of segmented polyurethaneureas via oligomeric end groups incorporated during synthesis
AUTHOR(S): White, Kathleen A.; Ward, Robert S.; Gill, Rusty S.; **Lim, Florencia**; Coviello, Sallie K.
CORPORATE SOURCE: The Polymer Technology Group Incorporated, Emeryville, CA, 94608, USA
SOURCE: Surface Modification of Polymeric Biomaterials, [Proceedings of the American Chemical Society Division of Polymer Chemistry International Symposium on Surface Modification of Polymeric Biomaterials], Anaheim, Calif., Apr. 2-6, 1995 (1997), Meeting Date 1995, 27-33. Editor(s): Ratner, Buddy D.; Castner, David Gordon. Plenum: New York, N. Y.
CODEN: 64TFAA
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Polyurethanes based on polyols or polycarbonates and MDI were prepd., chain-extended with diamines, and then end-capped with aliph. amines, dimethylsiloxanes, polyoxyethylenes, or fluoroaliph. alcs. The elastomeric products with tailor-made surface properties were suitable for use in medical products with improved thrombosis resistance.

L1 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:347930 HCAPLUS
DOCUMENT NUMBER: 125:56108
TITLE: Neutrophil adhesion on surfaces preadsorbed with high molecular weight kininogen under well-defined flow conditions
AUTHOR(S): Yung, Lin-Yue L.; **Lim, Florencia**; Khan, Mohammad M. H.; Kunapuli, Satya P.; Rick, Leonard; Colman, Robert W.; Cooper, Stuart L.
CORPORATE SOURCE: Department of Chemical Engineering, University of Delaware, Newark, DE, 19716, USA
SOURCE: Immunopharmacology (1996), 32(1-3), 19-23
CODEN: IMMUDP; ISSN: 0162-3109
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The adhesion of neutrophils and other leukocytes to biomaterial surfaces is an important phenomenon in the host response to biomaterials because the no. of adherent leukocytes is often related to the inflammatory response after implantation. After adhering to biomaterial surfaces,

other leukocyte reactions, such as phagocytosis, respiratory burst, and protease release, may occur and result in the deterioration of the implanted biomaterial and injury to peripheral tissue. This study of neutrophil adhesion quant. characterizes neutrophil adhesion under well-defined laminar flow conditions using a radial flow chamber. In this rheol. well-defined system, the fluid shear rate on the surface varies continuously with radial position. This allows the study of shear-dependent behavior of neutrophil adhesion. Exploiting the variable shear rate in the radial flow chamber, the kinetics of neutrophil adhesion was obtained using automated video microscopy and image anal. to recursively acquire cell counts from multiple fields in different radial positions, and to quantify the surface d. of neutrophil as a function of time. Neutrophil adhesion was studied on glass preadsorbed with fibrinogen and high-mol.-wt. kininogen (HK). At a shear rate of 20 s-1, the no. of adherent cells on the preadsorbed fibrinogen surface was similar to that on bare glass, and the no. of adherent cells on the HK surface was less than 10% of that on the bare glass. We conclude that surfaces preadsorbed with HK are anti-adhesive to neutrophils.

L1 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:298983 HCAPLUS
DOCUMENT NUMBER: 125:18921
TITLE: Polyurethanes containing covalently grafted RGD-peptides
AUTHOR(S): Lin, Horng-Ban; **Lim, Florencia**; Cooper, Stuart L.
CORPORATE SOURCE: Department Chemical Engineering, University Delaware, Newark, DE, 19716, USA
SOURCE: Advances in Science and Technology (Faenza, Italy) (1995), 12(Materials in Clinical Applications), 385-392
CODEN: ASETE5
PUBLISHER: Techna
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Peptides based on cell-adhesive regions of fibronectin, Arg-Gly-Asp-Ser (RGDS), and vitronectin, Arg-Gly-Asp-Val (RGDV), were covalently bound to a polyurethane backbone via amide bonds. The polymers studied included a PTMO-polyurethane control, a carboxylated version of the control polyurethane, and three different peptide grafted (GRGESY, GRGDSY, and GRGDVY) polyurethanes. On hydrated samples, XPS or ESCA showed a greater increase of nitrogen concn. for the peptide grafted polymers which suggests that grafting of the hydrophilic peptides to the polyurethane augments the hard segment enrichment at the surface. Upon dehydration, the nitrogen concn. decreased for all five polymers suggesting migration of the more hydrophobic PTMO soft segment to the surface. In vitro endothelial cell adhesion showed an increase of cell attachment on prehydrated RGD-contg. peptide grafted polyurethanes, but not on the other polymers. This results suggest an enhancement of peptide d. at the aq. interface, in good agreement with the XPS studies.

L1 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:493057 HCAPLUS
DOCUMENT NUMBER: 122:273993
TITLE: Surface and blood-contacting properties of alkylsiloxane monolayers supported on silicone rubber
AUTHOR(S): Silver, James H.; Hergenrother, Robert W.; Lin, Jui-Che; **Lim, Florencia**; Lin, Horng-Ban; Okada, Toshiyuki; Chaudhury, Manoj K.; Cooper, Stuart

L.
CORPORATE SOURCE: Dep. of Chemical Engineering, Univ. of Wisconsin, Madison, WI, 53706, USA
SOURCE: Journal of Biomedical Materials Research (1995), 29(4), 535-48
CODEN: JBMRBG; ISSN: 0021-9304
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Self-assembled monolayers of alkylsiloxanes supported on polydimethyl siloxane (PDMS) rubber were used as model systems to study the relation between blood compatibility and surface chem. The inner lumen of PDMS tubes was first treated with an oxygen plasma. The resultant oxidized surfaces were postderivatized by reacting them with alkyltrichlorosilanes to form the monolayer films. The chem. properties of the monolayers were controlled by varying the head-group chem. compns. Surface derivatization was verified using variable-angle XPS (XPS or ESCA). Blood compatibility was evaluated using a canine ex vivo arteriovenous series shunt model. Surfaces grafted with hydrophobic head-groups as -CH3 and -CF3 had significantly lower platelet and fibrinogen deposition than the surfaces composed of hydrophilic groups such as -CO2Me, -(CH2CH2O)3COMe, and -(OCH2CH2)3OH.

L1 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:686513 HCAPLUS
DOCUMENT NUMBER: 121:286513
TITLE: The role of complement activation and cellular interactions on the biocompatibility of polyurethanes
AUTHOR(S): **Lim, Florencia**
CORPORATE SOURCE: Univ. Wisconsin, Madison, WI, USA
SOURCE: (1994) 231 pp. Avail.: Univ. Microfilms Int., Order No. DA9410613
From: Diss. Abstr. Int. B 1994, 55(3), 1042
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L1 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:563977 HCAPLUS
DOCUMENT NUMBER: 121:163977
TITLE: Effect of polyol molecular weight on the physical properties and hemocompatibility of polyurethanes containing polyethylene oxide macro-glycols
AUTHOR(S): Silver, James H.; Myers, Craig W.; **Lim, Florencia**; Cooper, Stuart L.
CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA
SOURCE: Biomaterials (1994), 15(9), 695-704
CODEN: BIMADU; ISSN: 0142-9612
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The phys. properties and hemocompatibility of polyurethanes contg. polyethylene oxide (PEO) of varying mol. wts. but const. wt. fraction of hard segment are investigated. The PEO mol. wts. studied were 600, 1450 and 8000. Anal. of polyurethane phase sepn. and crystallinity using dynamic-mech. anal. and DSC show that the degree of phase sepn. and crystallinity increase with polyol mol. wt., but level off at the highest mol. wts. The degree of water absorption increases substantially with increasing PEO mol. wt., leveling off at the highest mol. wt. Tensile

data show a max. in extensibility at a PEO mol. wt. 1450, while ultimate strength increasing with increasing segment length. When the materials are hydrated, there is a significant drop in the modulus, ultimate stress and ultimate elongation. Dynamic contact angle measurements show that surface hydrophobicity decreases as the soft-segment mol. wt. increases. Using electron spectroscopy for chem. anal. (ESCA) to det. the surface compn. of these polyurethanes, it was found that the hard segment content at the surface increases as the polyol block length decreases. The hemocompatibility of these polyurethanes was investigated in an ex vivo canine blood-contacting model. Only for the shortest block length studied, PEO-600, are differences in blood compatibility obsd. This material was the most thrombogenic. The PEO-1450 sample shows comparable blood compatibility to PEO-8000.

L1 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:610650 HCAPLUS
DOCUMENT NUMBER: 119:210650
TITLE: Effects of oligoethylene oxide monoalkyl(aryl) alcohol ether grafting on the surface properties and blood compatibility of a polyurethane
AUTHOR(S): **Lim, Florencia**; Yu, Xuehai; Cooper, Stuart L.
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Wisconsin, Madison, WI, 53706, USA
SOURCE: Biomaterials (1993), 14(7), 537-45
CODEN: BIMADU; ISSN: 0142-9612
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of oligoethylene oxide monoalkyl(aryl) alc. ethers was grafted on to the backbone of a polytetramethylene oxide (PTMO)-based polyurethane, in an attempt to improve its biocompatibility. Each polyurethane contained a different pendant chain grafted to the urethane nitrogen atoms. The grafted chains consisted of various short lengths of hydrophilic oligomeric poly(ethylene oxide) (PEO) spacer segments and alkyl/aryl hydrophobic terminal groups. By using the 1H-NMR technique, the extent of grafting was found to range from 7 to 12 mol% substitution of the urethane hydrogen groups. The surface properties of these materials were evaluated using high-vacuum, air-equilibrated and water-equilibrated methods. XPS and static and dynamic contact angle expts. were performed. XPS showed that all of the grafted polyurethane surfaces contained higher ratios of C1s to O1s than the base polyurethane. These C:O contents correlate with the C:O ratios of the grafted chains. Dynamic contact angle anal. showed larger contact angle hysteresis for the grafted polyurethanes. The grafted polyurethanes generally exhibit lower complement activation, measured by an in vitro assay for C3a. A canine ex vivo arteriovenous series shunt was used to monitor platelet and fibrinogen deposition on these polymers. The incorporation of short ethylene oxide spacer segments with terminal C18 linear alkyl chains resulted in an improved short-term (up to 15 min) blood compatibility compared to the underivatized polyurethane. At longer blood contact times, all the grafted polyurethanes were more thrombogenic than the base polyurethane. In addn., there was no observable correlation between the material surface properties and the blood contact response.

L1 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:557571 HCAPLUS
DOCUMENT NUMBER: 117:157571
TITLE: The effect of surface hydrophilicity on biomaterial-leukocyte interactions

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AUTHOR(S): **Lim, Florencia**; Cooper, Stuart L.
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Wisconsin, Madison, WI, 53706, USA
SOURCE: ASAIO Transactions (1991), 37(3), M146-M147
CODEN: ASATEJ; ISSN: 0889-7190
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Leukocyte adhesion onto a series of polyetherurethanes contg. various ratios of polyethylene oxide (PEO) to polytetramethylene oxide (PTMO) in the soft segment was evaluated using an in vitro series shunt. The deposition of polymorphonuclear (PMN) and mononuclear (MN) leukocytes was measured quant. using labeling techniques. Results showed that H/H-1, the most hydrophobic surface, adsorbed higher amts. of PMN leukocytes. It was also obsd. that for most materials the no. of PMN and MN leukocytes deposited reached a plateau within 15 min. Unlike MN adherence, the presence of plasma proteins increased the no. of PMN leukocytes deposited on the materials.

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FILE 'HCAPLUS' ENTERED AT 09:33:28 ON 22 MAY 2003
L1          2838 S POLYCARBONATE?(S)POLYURETHANE?
L2        217652 S AROMATIC?
L3            37 S L1 AND L2
L4         26749 S BALLOON? OR CATHETER?
L5             0 S L3 AND L4
L6            37 S L2 AND L4
L7         15702 S CATHETER?
L8         12359 S BALLOON?
L9          1161 S L7(S)L8
L10            1 S L2 AND L9
L11       554826 S COPOLYMER? OR CO()POLYMER?
L12       116840 S POLYURETHANE?
L13            0 S L2(S)L11(S)S12
L14         2701 S L2(S)L11
L15          543 S L2(S)L12
L16         3218 S L14 OR L15
L17        53622 S POLYCARBONATE? OR POLY()CARBONATE?
L18          135 S L16 AND L17
L19            0 S L7 AND L18
L20           46 S L8 AND L17
L21           46 DUP REMOVE L20 (0 DUPLICATES REMOVED)
L22        72060 S AROMATIC/AB
L23           46 S L21
L24            0 S L21 AND L22
L25       362353 S L11/AB
L26        75487 S L12/AB
L27        14695 S L7/AB
L28        11249 S L8/AB
L29         2521 S L22 AND L25
L30           51 S L26 AND L29
L31            3 S L17 AND L30
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Set     Items   Description
S1      31073   BALLOON(S)CATHETER?
S2         11   BIONATE
S3          5   RD (unique items)
S4         94   POLY()CARBONATE()URETHANE?
S5      29842   POLYCARBONATE? OR POLY()CARBONATE?
S6      79613   URETHANE? OR POLYURETHANE? OR POLY()URETHANE?
S7     307437   AROMATIC?
S8        222   CARBONATE?(3N)URETHANE?
S9        222   S4 OR S8
S10       581   S5(3N)S6
S11       650   S9 OR S10
S12        33   S7(S)S11
S13         0   S1 AND S12
S14        33   S12
S15        18   RD (unique items)
S16        11   AU='LIM FLORENCIA'
S17        10   RD (unique items)
S18    145187   BALLOON?
S19         0   S12 AND S18
S20        52   S7 AND S18
S21         0   S20 AND S5
S22        52   S20
S23        42   RD (unique items)
S24       446   S7(3N)(S4 OR S6 OR S8)
S25         0   S18 AND S24
? show files
File   2:INSPEC 1969-2003/May W2
         (c) 2003 Institution of Electrical Engineers
File   5:Biosis Previews(R) 1969-2003/May W3
         (c) 2003 BIOSIS
File   6:NTIS 1964-2003/May W3
         (c) 2003 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2003/May W2
         (c) 2003 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2003/May W3
         (c) 2003 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  73:EMBASE 1974-2003/May W3
         (c) 2003 Elsevier Science B.V.
File 155:MEDLINE(R) 1966-2003/May W3
         (c) format only 2003 The Dialog Corp.
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ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:390394 HCAPLUS
DN 131:35905
TI Polyketone rubber-based medical devices with improved properties
IN Thakrar, Ashok; Gandhi, Deepak; Tenhoff, Harm
PA Intella Interventional Systems, Inc., USA
SO PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DT Patent
LA English
IC A61L029-00
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 39
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9929353	A2	19990617	WO 1998-US26413	19981211
	WO 9929353	A3	19991028		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6099926	A	20000808	US 1997-989791	19971212
	US 6093463	A	20000725	US 1998-45483	19980320
	AU 9918200	A1	19990628	AU 1999-18200	19981211
	EP 1037677	A2	20000927	EP 1998-963100	19981211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001525228	T2	20011211	JP 2000-524022	19981211
PRAI	US 1997-989791	A2	19971212		
	US 1998-45483	A2	19980320		
	WO 1998-US26413	W	19981211		

AB Medical devices, comprising a polymer or polymeric compn., wherein the phys. properties (e.g., glass transition temp., elasticity, elongation, friction, and tangential tensile strength) of the polymers or polymeric compns. or of the devices themselves are specified, used as intraluminal **balloons** and intravascular or intracoronary **catheters** are described. A molding compn. was prepd. by compounding 30 wt.% of aliph. polyketone R-1000 with 70 wt.% Pebax 6333 on a 27 mm twin screw extruder. The extruded blend was pelletized and then reextruded into a 0.019/0.038 in. ID/OD tube using a 25 mm single screw extruder at 420-480.degree.F. Test pieces, including 2.5 mm diam. balloons, were prepd. and tested, showing a coeff. of friction in air and water of 0.1214 and 0.1160, resp., tensile strength of 13128 psi, elongation of 188%, and burst pressure of 10 atm.

ST polyketone thermoplastic rubber **balloon catheter**

IT Sulfonamides
Sulfonamides
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(arenesulfonamides, plasticizers; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Synthetic rubber, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(azacyclotridecanone-polytetramethylene glycol, block, Pebax 6333; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Medical goods
(catheters, intracoronary and intravascular; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Medical goods
(catheters; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Polyolefins
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epoxy-contg., coupling agents; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Medical goods
(intraluminal balloons; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Medical goods
(percutaneous devices; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Crosslinking
(photochem.; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Amides, biological studies
Epoxides
Esters, biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plasticizers; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Synthetic rubber, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyamide-polyether, block; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Synthetic rubber, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyamide; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Coupling agents
Crosslinking agents
Elongation, mechanical
Friction
Glass transition temperature
Plasticizers
Tensile strength
Young's modulus
(polyketone and thermoplastic rubber-based medical devices with improved properties)

IT Acrylic rubber
Urethane rubber, biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with

improved properties)
IT Fluoropolymers, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Polyester rubber
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Polyesters, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Thermoplastic rubber
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Synthetic rubber, biological studies
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Synthetic rubber, biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyoxymethylene; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Crosslinking
(radiochem.; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Medical goods
(stents, catheters for delivery of; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT **Aromatic** compounds
Aromatic compounds
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfonamides, plasticizers; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Crosslinking
(thermal; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT Fluoro rubber
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinylidene fluoride; polyketone and thermoplastic rubber-based medical devices with improved properties)
IT 7440-32-6D, Titanium, org. compds., biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coupling agents; polyketone and thermoplastic rubber-based medical

devices with improved properties)

IT 97-90-5, Ethylene glycol dimethacrylate 101-37-1
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(crosslinking agent; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 1025-15-6
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(crosslinking agents; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 64-19-7, Acetic acid, biological studies 77-93-0, Triethyl citrate 110-94-1, Pentanedioic acid 123-99-9, Nonanedioic acid, biological studies 124-04-9, Hexanedioic acid, biological studies 2500-57-4 2664-42-8, N,N-Dimethyl oleamide 3622-84-2, Plasthall BSA 35415-33-9
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plasticizer; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 77-92-9D, Citric acid, esters 7664-38-2D, Phosphoric acid, alkyl and arom. esters, biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plasticizers; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 7440-67-7D, Zirconium, org. compds., biological studies 9002-88-4, Polyethylene 25014-41-9, Polyacrylonitrile
RL: DEV (Device component use); MOA (Modifier or additive use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 24937-16-4, Nylon 12 24937-79-9 25038-59-9, biological studies 88995-51-1, Carilon R-1000
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 227030-43-5, Carilon DX 26HW100
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyketone; polyketone and thermoplastic rubber-based medical devices with improved properties)

IT 108548-63-6, Azacyclotridecanone-polytetramethylene glycol block copolymer
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(rubber; polyketone and thermoplastic rubber-based medical devices with improved properties)

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